Chapter 3

Environmental Analysis and Mitigation

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3.1 ENVIRONMENTAL ANALYSIS & MITIGATION

Originator: Transportation Planning Division (Environmental Planning Branch)

ENVIRONMENTAL CLEARANCES

The MCDOT Environmental Clearance Process includes the following steps:

- ◊ Determination of the level of environmental clearance required.
- ◊ Assignment of project to staff or on-call consultant.
- ◊ Coordination and completion of the environmental clearance process.

Key components of the above process include:

- ◊ Review preliminary engineering documents and meet with project engineer.
- ◊ Inventory of project area.
- ◊ Identification of potential impact items.
- ◊ Coordination with other agencies.
- ◊ Evaluation of the impacts and development of mitigation.
- ◊ Preparation of appropriate (draft) environmental document.
- ◊ Involving the public as applicable.
- ◊ Incorporation of comments and reevaluation of the proposal and preparation of final environmental document.

Environmental clearance documents will generally address each of the following disciplines:

Natural Environment

1. Threatened and Endangered Species
2. Sensitive Species
3. Arizona Species of Concern
4. Special Status Species
5. Native Plants
6. Invasive Species
7. Wetland and Riparian Areas
8. Section 401 / 404
9. Section 4(f) Impacts (only if federally funded)
10. Visual Impacts
11. Prime or Unique Farmlands
12. Wild and Scenic Rivers
13. 100-Year Floodplain and Impacts
14. Cultural Resources

Physical / Construction

1. Noise Impacts
2. Air Quality Impacts
3. Construction-Related Impacts
4. Utility Impacts
5. Hazardous Materials Evaluation
6. National Pollutant Discharge Elimination System
7. Socioeconomic
8. Title VI / Environmental Justice

Various individuals contribute to the environmental evaluation process. Environmental Planning Branch within the MCDOT Transportation Planning Division will ultimately be responsible for coordinating preparation of all environmental documents.

There are several levels of environmental documents. The level of the report required depends on a project's complexity and potential environmental impacts, as well as on how the project is funded and on jurisdiction of the project's right-of-way. Minor projects such as adding shoulders, intersection improvements, and safety enhancements are generally covered with a 1-2 page Environmental Clearance Memo. All other TIP projects will be evaluated as Environmental Determination Reports (EDR) unless federal funds will be used through the ADOT/FHWA Local Government Program. If federal funds will be used to construct a project, a Categorical Exclusion (for minor projects) would be prepared, and for all other projects an Environmental Assessment or Environmental Impact Statement would need to be prepared.

Each MCDOT Transportation Improvement Program (TIP) project will be evaluated for potential social, economic, and environmental impacts that may result from the construction and/or operation of a specific improvement project. MCDOT projects occurring on or adjacent to federally owned land, as well as projects that will be constructed using federal funds or grant monies, shall follow the formal National Environmental Policy Act (NEPA) process in accordance with the Federal Highway Administration (FHWA) guidelines and the Arizona Department of Transportation (ADOT). Although most MCDOT projects are constructed with Highway User Revenue Funds (HURF), and the formal NEPA process is not required, MCDOT will evaluate all TIP projects for environmental impacts with a process similar to that practiced by ADOT and FHWA. Environmental evaluations are conducted concurrent to design concept reports (DCRs).

SUMMARY OF THE NEPA COMPLIANCE DOCUMENT PROCESS

1. SCOPING

Scoping is the process of identifying a project's potential social, economic, and environmental impacts based on site visits and coordination with other affected or interested agencies, and the general public. Project scoping begins during the early project development phase and may continue through the design phase.

2. CATEGORICAL EXCLUSION (CE)

A Categorical Exclusion is a set of project actions that do not significantly affect the environment either individually or cumulatively and which are excluded from the Environmental Assessment (EA) or Environmental Impact Statement (EIS) processes. Categorical exclusion documents are only prepared for federally funded projects. There are two groups of CEs:

Fixed lists of actions that do not require further NEPA documentation are known as Group 1 CEs. Group 1 CE examples include:

- ◊ Activities such as planning and technical studies that do not involve or lead directly to construction.
- ◊ Approval of utility installations along transportation facilities.
- ◊ Landscaping.
- ◊ Installation of fencing, signs, and pavement markings.

Actions that require documentation on a case-by-case basis require a Group 2 CE include:

- ◊ Modernization of a highway by resurfacing, rehabilitation, reconstruction adding shoulders or auxiliary lanes.
- ◊ Highway safety or traffic improvement projects.
- ◊ Bridge rehabilitation, reconstruction, or replacement.
- ◊ Construction of new truck weigh stations or rest areas.
- ◊ Approval for changes in access control.
- ◊ Acquisition of land for hardship or protective purposes.

3. CATEGORICAL EXCLUSION CLEARANCE LETTER

A Categorical Exclusion Clearance letter is a decision document verifying that a proposed action is categorically excluded from further NEPA compliance documentation. This letter is transmitted with the CE document to ADOT for approval.

4. ENVIRONMENTAL ASSESSMENT (EA)

An Environmental Assessment is prepared for actions not covered under a CE and which do not clearly require preparation of an EIS. Upon completion of an EA, the environmental process either culminates with the issuance of a Finding Of No Significant Impact (FONSI), or the need for an EIS has been demonstrated and then the EIS process is initiated. The EA defines the scope of the proposed action, determines which aspects of the proposed action have potential for environmental impact, identifies measures and alternatives which might mitigate adverse environmental impacts, and specifies other environmental review and consultation requirements to be prepared concurrently with the EA. (For federal-aid highway projects, the EA is prepared under the direction of the local agency, in consultation with ADOT and FHWA and a formal public hearing (or public hearing offer) must be completed prior to preparing the Final EA. For federally funded projects, the EA is prepared under the direction of MCDOT, in consultation with ADOT and FHWA.

5. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

A Finding Of No Significant Impact presents reasons explaining why the proposed action will have no significant environmental impacts. A FONSI is usually attached to an EA, supporting the decision that no EIS is needed. (A FONSI is not a decision document but is a 'finding' or a ‘conclusion’).

6. ENVIRONMENTAL IMPACT STATEMENT (EIS) / NOTICE OF INTENT (NOI)

An Environmental Impact Statement is an interdisciplinary document that identifies and thoroughly analyzes any significant, social, economic, and/or environmental impacts that might be caused by implementing any one of a range of responsible alternatives, or the proposed action itself. A Notice of Intent describes the proposed action and probable alternatives besides identifying anticipated issues. An NOI must be published in the Federal Register before starting the formal scoping process for an EIS.

An EIS is prepared only when it has been determined that other types of NEPA compliance documentation are not applicable. A public hearing and a formal review process are required in an EIS. An EIS is not a decision document but one upon which decisions are based. For federally funded projects, the EIS is prepared under the direction of the MCDOT, in consultation with ADOT and FHWA.

7. NOTICE OF AVAILABILITY (NOA)

A Notice of Availability must be published in the Federal Register and/or in local and state newspapers stating that a draft EIS is available for public review and comment.

8. RECORD OF DECISION (ROD)

A Record of Decision registers the decision on an EIS. The ROD explains the decision, describes the other alternatives, and specifies which alternatives were environmentally preferred. The ROD indicates any special consideration of national policy and whether a practical means have been adopted to avoid or minimize environmental harm by implementing the selected alternative. Any monitoring program essential for mitigation is also described.

9. MITIGATION

Mitigation is a commitment to a specific action that will alleviate or eliminate identified environmental impacts. Mitigation is intended to:

- ◊ Avoid impacts by taking certain action.
- ◊ Minimize impacts by limiting the degree of action.
- ◊ Rectify the impacts by repair or rehabilitation.
- ◊ Reduce or eliminate impacts over time by preservation and maintenance operations.
- ◊ Compensate for the impacts by substituting resources or environments.

If monitoring is necessary to evaluate the effectiveness of any mitigation measure, a monitoring plan must be included in the Categorical Exclusion Record, Decision Record, or Record of

Decision. (Occasionally, mitigation measures may simply be "See Standard Specifications" or "See Construction Special Provisions.")

3.2 CULTURAL RESOURCES MANAGEMENT

Originator: Transportation Planning Division

CULTURAL RESOURCES MANAGEMENT PROCESS

The following Cultural Resources Management Process will be undertaken for MCDOT Transportation Improvement Program (TIP) projects and may be required of the general public or other agencies seeking to make improvements in Maricopa County right-of-way. In general, the MCDOT Cultural Resources Management Process will consist of the following components:

- ◊ Environmental determination of the scope of the action and the level of response required (See Section 3.1).
- ◊ Identification of participants or interested parties who will interact with MCDOT in the cultural resources management process, and formulation of negotiated action plans, or federal or state agreement documents (e.g., PA, MOA, MOU, etc.), detailing how consultation and mitigative activities will be structured.
- ◊ Diligent execution of all required actions to complete the process in a professional, timely, and cost-effective manner.

Key components of the above process include:

- ◊ Identification of the undertaking;
- ◊ Identification of project area/construction area boundaries;
- ◊ Identification of all historic properties that have potential to be disturbed as a result of undertaking;
- ◊ Identification of all impacts to significant State or National Register-eligible historic properties or traditional cultural properties;
- ◊ Proactive consultation with the Arizona State Museum (ASM); the State Historic Preservation Office (SHPO); the Advisory Council on Historic Preservation (ACHP); federal, state and local government; Tribal governments or communities; and, all interested parties;
- ◊ Diligent execution of appropriate site avoidance or mitigation measures as determined by the consultation process;
- ◊ Professional documentation and information management; and,
- ◊ Public outreach / communication including project enhancement grantsmanship; avocational / volunteer participation; educational advocacy services; and, forthright information disclosure to the public and media organizations.

Though many persons will contribute to the management process, a designated staff specialist within MCDOT Transportation Planning Division will serve as lead administrative manager for all collateral issues in the MCDOT cultural resource management process.

3.3 AIR QUALITY

Originator: Transportation Planning Division

AIR QUALITY

MCDOT projects shall be designed to comply with provisions of the Clean Air Act. The United States Environmental Protection Agency designated the metropolitan area within Maricopa County as a non-attainment area for three pollutants: carbon monoxide, ozone, and particulate matter. For each of these three pollutants, the Clean Air Act further classifies non-attainment areas by the extent to which the pollutant level in the ambient air exceeds adopted federal standards. The specific terms used in this classification system are marginal, moderate, serious severe, and extreme. The stringency of legally required control measures used to improve the air quality of non-attainment areas depends upon this classification. The metropolitan area within Maricopa County has been classified: serious non-attainment for carbon monoxide, serious non-attainment for the 1-hour ozone standard, and in serious non-attainment for particulate matter. The county is also expected to be in non-attainment for the 8-hour ozone standard. The attainment deadline for particulate matter has been extended to 2005. Maricopa County is expected to be in attainment for the new 2.5-micron particulate matter standard. Attainment requirements were established by the 1977 Clean Air Act Amendments (CAAA) and strengthened substantially by the 1990 CAAA. Non-attainment status must be verified at the time of project design.

The State and County air quality control plans require that carbon monoxide, particulate and volatile organic carbon (hydrocarbon) emissions from all sources be controlled with best available control measures. For road construction, this specifically applies to earthmoving, material stockpiles and dust control. Earthmoving permits are required for all construction activities.

If air quality modeling is required for a project, all of the information required for traffic analysis will be required, traffic signal phasing and timing, as well as the planned cross-section and details of existing residences. Also, a detailed description of any planned multi-modal transportation facilities included in the development plan. A micro-scale analysis will be performed if the project uses federal funds and includes any arterial or higher-class roads or if determined necessary by MCDOT. The model CAL3HQC or equivalent shall be utilized. All arterial class road projects adding ½ mile or more of additional through lane capacity must have a conformity determination completed no earlier than 3 years before construction and no later than the date of the final construction permit.

Maricopa County Air Pollution Control Division regulations establish air quality permitting requirements. MCDOT will determine the air quality impacts of the project on the transportation network and include that determination as part of the environmental determination.

3.4 NOISE

Originator: Transportation Planning Division

NOISE

MCDOT projects will comply with requirements of the MCDOT Noise Impact Abatement Policy, April 1998 (revised April 2001). Projects that will include federal funds for construction will comply with the ADOT Noise Policy, March 9, 2000. This includes related provisions of US Title 23, Code of Federal Regulations Part 772 (23CFR772), Procedures for Abatement of Highway Traffic Noise and Construction Noise.

The Arizona Department of Transportation, and Maricopa County Department of Transportation have separate noise abatement policies, tailored to the types of highways and roadways each respective department maintains. Both policies comply with 23CFR772.

If noise impact modeling is required for a project, all of the information required for traffic analysis will be required, as well as the planned cross-section and details of existing residences. Peak hour traffic analysis and traffic classification are essential. A micro-scale noise impact analysis will be performed if the project adds through lane capacity, and there are existing residences, that may incur noise impacts, at the time the project is funded, or if determined necessary by MCDOT. Project modeling shall be done with an FHWA approved model. For further information contact the Transportation Planning Division at (602) 506-4608.

MCDOT adopted a Noise Impact Abatement Policy in April 1998, and revised it in April 2001. This policy gives guidance for interpretation of 23CFR772 for local conditions, and guidance for modeling inputs. This policy including all revisions thereto will be the basis for MCDOT to determine the noise impacts of the project on the transportation network and include that determination as part of the environmental determination, unless the funding source of a project requires that other policies, such as those of the Arizona Department of Transportation, be used.

3.5 HAZARDOUS MATERIALS INVESTIGATIONS

Originator: Transportation Planning Division

As part of the environmental clearance process, the Environmental Planning Branch will attempt to identify potentially hazardous materials and/or underground storage tanks within the project area. If there is no visual evidence of hazardous materials at the time of the environmental field survey, that information will be reflected in the environmental clearance document. Depending on the project scope and the past/current land uses in the area, a records search may be conducted with the Arizona Department of Environmental Quality.

If hazardous materials are identified, or the potential for hazardous materials is perceived, then surface and subsurface investigations may be conducted by a consultant to determine the extent of contamination. The need for further investigation and/or mitigation will be determined through consultation with the project engineer.

3.6 SECTION 404 PERMIT / SECTION 401 CERTIFICATION

Originator: Transportation Planning Division

All projects that will require construction activity within a "water of the United States" must be reviewed in accordance with Section 404 of the Clean Water Act. "Waters of the U. S." include all rivers, washes, drainages, ponds, etc. whether they have permanent water or not. The primary concern regarding "waters of the U. S." is that if any "fill material" (permanent or temporary) will be placed in an area under jurisdiction of the U.S. Army Corps of Engineers, then a Section 404 permit will be needed prior to construction.

For MCDOT TIP projects the Environmental Planning Branch is responsible for acquiring the appropriate permit from the Corps of Engineers. Section 404 permits will be secured during the environmental clearance process and preferably prior to completion of 70% design.

Two types of Section 404 permits are available to meet the criteria of the Clean Water Act, nationwide permits and individual permits. A series of nationwide permits are used for smaller type projects and require less time and effort to obtain. These permits can generally be acquired in 2-3 months. Individual permits are required for all projects where none of the nationwide permits are applicable and typically require 9-12 months to complete the process.

In conjunction with the Section 404 permit, Section 401 Water Quality Certification will be coordinated with the Arizona Department of Environmental Quality (for Tribal lands, the Environmental Protection Agency is responsible for Section 404 certification). This coordination addresses water pollution prevention relative to project construction activities.